ABSTRACT OF THE DISCLOSURE

A high pass filter 32 having a cut-off frequency of 200Hz and a cut-off response of +12dB/OCT and a low pass filter 33 having a cut-off frequency of 400Hz and a cut-off response steeper than –24dB/OCT are used to pick out components in a double overtone region of 200～400Hz of a bass musical instrument such as a base or a bass drum from an input audio signal. The component which is picked out is input to distortion applying means 34 having an input-output response which is a non-linear response having no point symmetry with respect to 0 point, thus applying a distortion to cause even-numbered overtone components to be produced. An output from the distortion applying means 34 and the input audio signal are summed in a summer 18 to be delivered. Natural tones which have boosted bass tones and which are free from impurity are obtained.